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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/994,642	12/19/1997	TOSHIKAZU YANAI	35.C12444	6853

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
TILLERY, RASHAWN N	

ART UNIT	PAPER NUMBER
2612	28

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	08/994,642	YANAI ET AL.
	Examiner	Art Unit
	Rashawn N Tillery	2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,13-26,29-34 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,2,4,6,8,10,14,16,18,20,22,24,26,30,32 and 34* is/are allowed.

6)☒ Claim(s) *3,5,7,9,13,15,17,19,21,23,25,29,31,33 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

Response to Arguments

Applicant's arguments filed March 3, 2003 regarding claim 3 have been fully considered but they are not persuasive.

Regarding Applicant's arguments concerning the Tanaka patent failing to disclose the claimed control unit, the examiner respectfully disagrees.

Tanaka teaches, in figure 3 and Section 3, two fields- Field 1, comprised of the top four rows alternately located so that the first and third rows are in opposite phase and Field 2, comprised of the bottom four rows alternately located in a similar manner to Field 1. Adjacent rows of Field 1 are added to produce a color difference signal (ie the first two lines are added and the next two lines are added). Similarly, Field 2 produces a single color difference signal from the sum of four scanning lines.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 3, 5, 7, 9, 13, 15, 17 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al (HDTV Single-chip CCD Color Camera).

Regarding claim 3, Tanaka discloses an image pickup device comprising

a color filter array (see figure 6),

a plurality of pixels (see section 4-1 where the 2-million-pixel CCD is discussed),

a plurality of vertical read-out units (see section 4-1 where the V-CCD is discussed),

a horizontal read-out unit (see section 4-1 where the H-CCD),

an output unit (inherent feature); and

control unit arranged to divide the plurality of pixels on a unit basis (Field 1 and Field 2 in figure 3 are each equivalent to a "unit") of a predetermined number of lines (Tanaka teaches in figure 3, Field 1 comprised of the top four lines and Field 2, comprised of the last four lines), which includes a plurality of first lines alternating with a plurality of second lines (Tanaka teaches in Section 3, four rows in a field alternately located so that the first and third rows are in opposite phase), and arranged to add the signals of

pixels of adjacent first lines and second lines to generate a color difference signal from every unit (Tanaka teaches in figure 3, adding adjacent rows of each Field to generate a color difference signal), wherein the color difference signals generated from adjacent units are different, and the color difference signals generated from every other unit are equal (Tanaka teaches in figure 3, each Field produces one color difference signal).

Regarding claim 5, Tanaka discloses the signal charges of two predetermined pixels being added and an image signal corresponding to the added signal charges being outputted from the output unit (see figure 1).

Regarding claim 7, Tanaka discloses the added signal charges of two predetermined pixels are further added with signal charges of two predetermined pixels that are present in a diagonal direction to the first mentioned two predetermined pixels in a column adjacent to that of the first mentioned two predetermined pixels (see figure 5), and

an image signal corresponding to the added signal charges of the four predetermined pixels is outputted from the output unit.

Regarding claim 9, Tanaka discloses combining a method of adding signal charges in the vertical direction and further adding them with signal charges in the diagonal direction and further adding signal charges in the vertical direction (see Fig. 1 where the added combinations of, "(Mg + Ye)," in the vertical direction and, "(G + Cy)," in the diagonal direction are further added to signal charges in the vertical direction, "(G + Ye)").

Regarding claim 13, Tanaka discloses the combination of two predetermined pixels of yellow and green and cyan and magenta (see figure 1).

Regarding claims 15 and 17, see claim 13 above.

Regarding claim 36, Tanaka discloses a signal processing circuit which subjects the signals output from the output unit to an image processing and an image display unit (see section 4-4 where the color signal process circuit is discussed and section 5-2 where the reproduced image is discussed).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 19, 21, 23, 25, 29, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Kotaki (US5907355).

Regarding claims 19, 21 and 29, Tanaka does not expressly disclose electrodes connected to every fourth pixel. Kotaki reveals, in figure 6, that it is well known in the art to utilize a color CCD where the electrodes are connected to every fourth pixel in a vertical direction (see col. 8, lines 26-41 where the read-out of signal charges is discussed). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement Kataki's teachings since a four-phase driver would ultimately decrease charge read-out time.

Regarding claims 23, 25, 31 and 33, Tanaka does not expressly disclose electrodes connected to every fourth pixel. Kotaki reveals, in figure 6, that it is well known in the art to utilize a color CCD where the electrodes are connected to every fourth pixel in a vertical direction (see col. 8, lines 26-41 where the read-out of signal charges is discussed). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Kataki's teachings since a four-phase driver would ultimately decrease charge read-out time.

Allowable Subject Matter

1. Claims 1, 2, 4, 6, 8, 10, 14, 16, 18, 20, 22, 24, 26, 30, 32 and 34 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashawn N Tillery whose telephone number is 703-305-0627. The examiner can normally be reached on 9AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

RNT
May 6, 2003